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CLAIMS 1-14:

1. Hemocompatible surfaces, characterized in that they contain as materials artificial and/or natural organic and/or inorganic compounds and/or mixtures thereof and/or materials having contact with blood and/or other
5 body fluids in invasive operations and/or animal organs and/or organ parts, and constituents of the outer layers of blood cells and/or mesothelial cells are applied and/or incorporated onto and/or into the surfaces of said materials.
2. The hemocompatible surfaces according to claim 1,
10 characterized in that they are non-thrombogenic and/or non-immunogenic.
3. The hemocompatible surfaces according to one of claims 1 or 2, containing glycophorins on and/or in the surfaces of the materials.
- 15 4. The hemocompatible surfaces according to one of claims 1-3, containing on and/or in the surfaces of the materials oligosaccharide, polysaccharide and/or lipid portions of the glycoproteins, glycolipids and/or proteoglycans from the outer layer of blood cells and/or mesothelial cells.
- 20 5. The hemocompatible surfaces according to one of claims 1-4, containing glycosphingolipids on and/or in the surfaces of the materials.
6. The hemocompatible surfaces according to one of claims 1-5, containing on and/or in the surfaces of the materials as the oligosaccharide
25 and/or polysaccharide portions of the proteoglycans hyaluronic acids, chondroitin sulfates, dermatan sulfates, heparan sulfates, keratan sulfates or mixtures thereof.
7. The hemocompatible surfaces according to one of claims 1-6, containing on and/or in the surfaces of the materials heparan sulfate of the
30 erythrocyte plasma membrane of animal and/or human origin.

8. The hemocompatible surfaces according to one of claims 1-7, containing as the materials high-molecular organic compounds and/or metals, metal oxides, alloys, ceramics, glasses, minerals and/or mixtures of the materials mentioned before.

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9. A process for making hemocompatible surfaces, characterized in that

a) glycophorins and/or oligosaccharide, polysaccharide and/or lipid portions of the glycoproteins, glycolipids and/or proteoglycans are isolated from the outer layer of blood cells and/or mesothelial cells, and

b) said cell constituents are applied and/or incorporated onto and/or into the surfaces of materials of artificial and/or natural organic and/or inorganic compounds and/or mixtures thereof and/or materials having contact with blood and/or other body fluids in invasive operations and/or animal organs and/or organ parts by physical or chemical bonding.

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10. The process according to claim 9, characterized in that the constituents of the outer layer of blood cells are isolated from whole blood and/or from cell fractions obtained therefrom of human or animal origin.

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11. The process according to one of claims 9 or 10, characterized in that cell constituents are isolated from erythrocytes, leucocytes and/or thrombocytes and/or mixtures thereof.

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12. The process according to one of claims 9-11, characterized in that constituents of the outer layer of mesothelial cells are isolated from omentum, peritoneum and/or inner organs.

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13. The process according to one of claims 9-12, characterized in that a chemical immobilization, photoimmobilization, adhesion, drying process or a combination thereof is carried out for applying and/or incorporating the cell constituents onto and/or into the surfaces of the materials.

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14. Use of hemocompatible surfaces according to one of claims 1-8 in extensive fields of health, in medicine, dentistry, surgery, cosmetics and/or in fields having contact with blood, tissue and/or other body fluids during invasive operations.

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